

Audit Report



DEFENSE INFORMATION SYSTEMS AGENCY
MEGACENTER SUPPORT OF THE YEAR 2000
FUNCTIONAL END-TO-END TESTING REQUIREMENTS

Report No. 99-238

August 20, 1999

Office of the Inspector General
Department of Defense

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Acronyms

DISA
SLA
Y2K

Defense Information Systems Agency
Service Level Agreement
Year 2000



INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
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August 20, 1999

MEMORANDUM FOR DIRECTOR, DEFENSE INFORMATION SYSTEMS
AGENCY

SUBJECT: Audit Report on the Defense Information Systems Agency Megacenter
Support of the Year 2000 Functional End-to-End Testing Requirements
(Report No. 99-238)

We are providing this report for your information and use. We considered Army management comments on a draft of this report when preparing the final report. No further comments are necessary.

We appreciate the courtesies extended to the audit staff. For additional information on this report, please contact Ms. JoAnn Henderson at (703) 604-9073 (DSN 664-9073) (jhenderson@dodig.osd.mil), Ms. Dianna J. Pearson at (703) 604-9063 (DSN 664-9063) (djpearson@dodig.osd.mil), or Ms. Mary Lu Ugone at (703) 604-9049 (DSN 664-9049) (mulugone@dodig.osd.mil). See Appendix B for the report distribution.

A handwritten signature in black ink, reading "Robert J. Lieberman", is positioned above the printed name.

Robert J. Lieberman
Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. 99-238
(Project No. 9AS-0097)

August 20, 1999

Defense Information Systems Agency Megacenter Support of the Year 2000 Functional End-to-End Testing Requirements

Executive Summary

Introduction. This is one in a series of reports being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to monitor DoD efforts to address the year 2000 computing challenge. For a listing of audit projects addressing the issue, see the year 2000 webpage on the IGnet at <http://www.ignet.gov>.

Objective. Our objective was to evaluate the Defense Information Systems Agency Megacenter support of year 2000 functional end-to-end testing requirements. Specifically, we reviewed the process that the Defense Megacenters use to support functional end-to-end testing and the capability of the Defense Megacenters to meet those requirements.

Results. The Defense Information Systems Agency has exercised due diligence in supporting year 2000 functional end-to-end testing requirements for the finance, logistics, and personnel functional areas. The Defense Information Systems Agency has established 38 test domains, which will be available through December 31, 1999, to support functional testing requirements. Also, the Defense Information Systems Agency has asked the functional end users to finalize existing requirements so that it can plan and schedule resource requirements. See the finding section of the report for a discussion on the audit results.

Management Comments. No comments were required from the Defense Information Systems Agency and none were received. The Army provided the comment that it has no personnel functional end-to-end testing requirements.

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Introduction

This is one in a series of reports being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to monitor DoD efforts to address the year 2000 (Y2K) computing challenge. For a list of audit projects addressing the issue, see the Y2K web pages on IGnet at <http://www.ignet.gov>.

Background

Congressional Requirement. Public Law 105-261, National Defense Authorization Act of 1999, requires the Secretary of Defense to identify an executable strategy to test information technology and national security systems for Y2K compliance. Also, Public Law 105-261 requires the Secretary of Defense to submit plans to ensure that adequate resources (test facilities, tools, and personnel) have been provided DoD-wide to make certain that all mission-critical systems achieve Y2K compliance.

DoD Year 2000 Management Strategy. In his role as the DoD Chief Information Officer, the Senior Civilian Official, Office of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence), issued the "DoD Year 2000 Management Plan," (DoD Management Plan) version 2.0, in December 1998. The DoD Management Plan provides the overall DoD strategy and guidance for inventorying, prioritizing, fixing, testing, implementing compliant systems, and monitoring progress. The DoD Y2K management strategy allows each DoD Component the flexibility to determine an appropriate Y2K solution and describes the DoD Y2K management process for determining Y2K compliance. The DoD Management Plan requires that operational evaluations and functional end-to-end tests are conducted.

Functional End-to-End Tests. Functional end-to-end testing is intended to be an assessment of core process flows and the systems and interfaces required within the flow to support Y2K events. Pursuant to the DoD Management Plan, the Under Secretary of Defense (Acquisition and Technology), Under Secretary of Defense (Policy), Under Secretary of Defense (Personnel and Readiness), Under Secretary of Defense (Comptroller), and the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence), must verify that functions under his or her purview will continue unaffected by Y2K issues. In a memorandum dated August 24, 1998, the Deputy Secretary of Defense

directed that the Under Secretary of Defense (Acquisition and Technology), the Under Secretary of Defense (Personnel and Readiness), and the Senior Civilian Official:

- provide functional end-to-end test plans;
- certify that test plans include assessments of functional risk, effects of Y2K on continuity of business operations, and associated contingency plans;
- ensure all test plans include a listing of all mission-critical systems involved in the test; and
- coordinate each test plan with the Military Departments and all other pertinent functional area managers.

Each functional area manager also was required to develop a Y2K master plan that provides overall guidance for participants addressing those issues most pertinent to the function. The master plan was to ensure that systems/interfaces identified for testing would be crosschecked against systems/interfaces being evaluated in Joint Staff and Commanders in Chief and Service testing to identify and resolve any conflicts and coordinate related efforts and objectives.

Service-sponsored Tests. The Services are required to conduct as many Y2K system integration tests as deemed necessary and feasible. Also, the Services are responsible for testing all interfaces to each system to ensure Y2K compliance. The system integration and operational evaluations are intended to involve a large number of systems, demonstrate a high-level function or mission capability, and span across multiple Services, Agencies, and non-DoD partners. The interface test events are conducted in the related Y2K operational environment and allow functional processes, such as logistics or finance, to be evaluated for Y2K operational capabilities.

Defense Megacenters. The Defense Megacenters process data that support DoD combat support activities such as supply, payroll, personnel, medical, and transportation. The Defense Megacenters are providing testing support for the finance, logistics, and personnel functional areas in a coordinated effort with the Central Design Activities.

Central Design Activities. The Central Design Activities are part of the Military Departments and Defense agencies. The Central Design Activities develop and maintain application software, support functional end-to-end testing, and make application software Y2K compliant.

Objective

Our objective was to evaluate the Defense Information Systems Agency (DISA) Megacenter support of Y2K functional end-to-end testing requirements. Specifically, we reviewed the process that the Defense Megacenters use to support functional end-to-end testing and the capability of the Defense Megacenters to meet those requirements. See Appendix A for a discussion of the audit scope and methodology.

Defense Megacenter Support for Functional End-to-End Testing Requirements

DISA has exercised due diligence in supporting Y2K functional end-to-end testing requirements for the finance, logistics, and personnel functional areas. DISA has established 38 test domains, which will be available through December 31, 1999, to support functional testing requirements. Although DISA does not anticipate resourcing shortfalls because of new testing requirements, DISA has asked the functional end users to finalize existing requirements and submit additional requirements in a timely manner so that it can plan and schedule resource requirements.

Support of Testing Requirements

Defense Megacenter Support. The Defense Megacenter goal is to be responsive to its customers, seek innovative solutions, aggressively work to reduce costs, and to provide a professional workforce. Consequently, the Defense Megacenters have taken a proactive approach to support end-to-end testing requirements for the principal staff assistants, or functional area managers, the Services, and the Defense agencies.

Customer Satisfaction. We focused our review of customer satisfaction on the logistics functional area because its end-to-end test events required significant DISA resource requirements. DISA customers were generally satisfied with DISA support of testing requirements and gave high ratings for assistance. DISA customers interviewed included the functional area manager for logistics, the Defense Logistics Agency, the Army Materiel Command, and the Y2K focal points for the Navy, the Air Force, and the Marine Corps. The customers cited numerous incidents where DISA had obtained additional software licenses, secured reductions of leasing and software costs, obtained excess equipment instead of waiting for the procurement of new equipment, and worked extended hours to provide testing support. Additionally, at the July 14, 1999, DISA Y2K meeting, no issues pertaining to DISA resource requirements were raised. Rather, customers expressed satisfaction with Defense Megacenter support.

Functional End-to-End Testing Requirements. The requirement to support functional end-to-end testing is a significant additional requirement to normal production services. Therefore, on February 24, 1999, the DISA Director asked the Services and Defense agencies to submit testing requirements by March 15, 1999, and to negotiate separate service level agreements (SLA) to support end-to-end testing.

Service Level Agreements for Testing. The SLA serves as an agreement between DISA and its customer for processing support required, including testing support. At the end of June 1999, about one-half of the potential testing customers had responded with a signed agreement. Generally, the contents of the SLAs varied among the customers and Defense Megacenters and ranged from sketchy to detailed. For example, the Air Force SLA with the Oklahoma City Megacenter was a broad agreement that covered both the logistics and personnel functional areas. However, the SLA did not identify domains or costs associated with specific testing because testing details were not finalized when the SLA was developed. Conversely, the Army SLA with the St. Louis Megacenter covered the logistics functional area, identified a requirement for two test domains, and provided an estimated cost for support provided. Table 1 shows the status of SLAs as of July 1999. Although SLAs have not been finalized, the established test domains will be available for testing requirements through December 31, 1999.

Table 1. Status of Service Level Agreements

	<u>Logistics</u>	<u>Personnel</u>	<u>Finance</u>
Army	Signed	Not Applicable ¹	Being Finalized
Navy	Signed	Being Finalized	Being Finalized
Air Force	Signed	Signed	Being Finalized
Marine Corps	Signed	Being Finalized	Being Finalized
DLA ²	Signed	Not Applicable	Being Finalized
DFAS ³	Not Applicable	Not Applicable	Being Finalized

¹According to the August 3, 1999 Army reply to the draft audit report. For the full text of the Army comments, see page 15.

²Defense Logistics Agency

³Defense Finance and Accounting Service

Test Domains. DISA has assigned test domains to accommodate customer needs for functional end-to-end testing. Test domains are in addition to the domains the customers require for normal computer processing services. Table 2 shows the number of test domains that DISA has provided to support end-to-end testing requirements.

Table 2. Domains Assigned for Functional Testing Support

	<u>Logistics</u>	<u>Personnel/ Manpower</u>	<u>Finance</u>	<u>Health Affairs</u>	<u>Communi- cations</u>	<u>Intelli- gence</u>	<u>Totals</u>
Army	2	0	0	0	0	0	2
Air Force	13	2	0	0	0	0	15
Navy	3	2	0	0	0	0	5
Marine Corps	1	0	0	0	0	0	1
DLA ¹	6	0	0	0	0	0	6
DFAS ²	<u>0</u>	<u>0</u>	<u>9</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>9</u>
Total	25	4	9	0	0	0	38

¹ Defense Logistics Agency

² Defense Finance and Accounting Service

Test Scheduling

Domain Scheduling. End-to-end functional area Y2K testing must all be completed within the next 5 months. Therefore, the functional area managers, the Services, and the Defense agencies must submit any new requirements to DISA so that DISA can appropriately plan and schedule the requisite support. Additionally, although the test domains are available through December 1999, we believe that the Army and Marine Corps have a higher risk in obtaining the requisite support if new requirements reflect need for additional test domains. Examples of additional requirements that have the potential to impact Y2K end-to-end test scheduling include, but are not limited to, additional testing requirements for mission critical systems and retesting requirements.

Additional Testing Requirements. The St. Louis Defense Megacenters provided support for the Army system integration testing for logistics and considered system integration testing to be complete. The Defense Megacenters is providing support to the Army for functional area manager-sponsored logistics end-to-end testing. However, Army officials have determined that at least four systems may not have been fully tested and must be scheduled for testing at the conclusion of the logistics end-to-end testing.

Retesting Requirements. The test plans for logistics, personnel, and finance have retesting requirements. Other ongoing audits (see Appendix A) are reviewing test plans for those functional areas. As functional end-to-end testing proceeds, retesting requirements need to be identified so that DISA can appropriately plan and schedule the resources to support the testing.

Summary

DISA has prudently supported the testing requirements for logistics, personnel, and finance functional end-to-end-testing by establishing and making test domains available through December 31, 1999. However, for DISA to continue to adequately plan and schedule resource requirements, functional testing requirements need to be finalized and submitted to DISA in an expeditious manner.

Appendix A. Audit Process

This is one in a series of reports being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to monitor DoD efforts to address the Y2K computing challenge. For a list of audit projects addressing the issue, see the Y2K web pages on IGnet at <http://www.ignet.gov>.

Scope

Defense Megacenter Support of End-to-End Testing. We reviewed the process the Defense Megacenters use to support functional end-to-end testing requirements and the capability of the Defense Megacenters to meet those requirements. We also asked customers to comment on their satisfaction with DISA support of their testing requirements for the logistics functional area.

DoD-Wide Corporate-Level Government Performance and Results Act Goals. In response to the Government Performance and Results Act, the Department of Defense has established 6 DoD-wide corporate-level performance objectives and 14 goals for meeting the objectives. This report pertains to achievement of the following objectives and goals.

Objective: Prepare now for an uncertain future. **Goal:** Pursue a focused modernization effort that maintains U.S. qualitative superiority in key warfighting capabilities. (DoD-3)

DoD Functional Area Reform Goals. Most major DoD functional areas have also established performance improvement reform objectives and goals. This report pertains to achievement of the following functional area objectives and goals.

- **Information Technology Management Functional Area.**
Objective: Become a mission partner. **Goal:** Serve mission information users as customers. (ITM-1.2)
- **Information Technology Management Functional Area.**
Objective: Provide services that satisfy customer information needs. **Goal:** Modernize and integrate Defense information infrastructure. (ITM-2.2)
- **Information Technology Management Functional Area.**
Objective: Provide services that satisfy customer information needs. **Goal:** Upgrade technology base. (ITM-2.3)

General Accounting Office High-Risk Area. In its identification of risk areas, the General Accounting Office has specifically designated risk in resolution of

the Y2K problem as high. This report provides coverage of that problem and of the overall Information Management and Technology high-risk area.

Methodology

Audit Type, Dates, and Standards. We performed this economy and efficiency audit from April through July 1999 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. We did not use computer-processed data for this audit.

Contacts During the Audit. We visited or contacted individuals and organizations within DoD. Further details are available on request.

Management Control Program. We did not review the management control program related to the overall audit objective because DoD recognized the Y2K issue as a material management control weakness area in the FY 1998 Annual Statement of Assurance.

Summary of Prior Coverage

The General Accounting Office and the Inspector General, DoD, have conducted multiple reviews related to Y2K issues. General Accounting Office reports can be accessed over the Internet at <http://www.gao.gov>. Inspector General, DoD, reports can be accessed at <http://www.dodig.osd.mil>.

Summary of Ongoing Audit Coverage

The Inspector General, DoD, is conducting multiple reviews related to Y2K functional end-to-end testing issues. A list of ongoing audit coverage is shown below.

Ongoing Audit Coverage

<u>Project Number</u>	<u>Project Title</u>
8FG-6020.01	Defense Finance and Accounting Service Year 2000 Initiatives-Application Testing
8LD-9021.02	Audit of Year 2000 Computing Issues: Defense Logistics Agency Standard Automated Material Management System
9LD-9024.01	Logistics End-to-End Year 2000 Testing in the Army
9LD-9024.03	Logistics End-to-End Year 2000 Testing in the Navy
9LD-9024.02	Logistics End-to-End Year 2000 Testing in the Air Force
9AL-0098	Year 2000 End-to-End Tests for Personnel Systems
9FG-9025	DoD Civilian Pay Functional Area End-to-End Year 2000 Tests
9FG-9026	Military Pay Year 2000 End-to-End Testing
9LD-9024	Logistics Year 2000 End-to-End Tests

Appendix B. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition and Technology
Deputy Under Secretary of Defense, Logistics
Director, Defense Logistics Studies Information Exchange
Under Secretary of Defense (Comptroller)
Deputy Chief Financial Officer
Deputy Comptroller (Program/Budget)
Under Secretary of Defense for Personnel and Readiness
Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)
Deputy Assistant Secretary of Defense (Command, Control, Communications, and Intelligence, Surveillance, Reconnaissance, and Space Systems)
Deputy Chief Information Officer and Deputy Assistant Secretary of Defense (Chief Information Officer Policy and Implementation)
Principal Director for the Year 2000

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Director, Joint Staff

Department of the Army

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Chief Information Officer, Army
Inspector General, Department of the Army
Auditor General, Department of the Army

Department of the Navy

Assistant Secretary of the Navy (Financial Management and Comptroller)
Chief Information Officer, Navy
Inspector General, Department of the Navy
Auditor General, Department of the Navy
Inspector General, Marine Corps

Department of the Air Force

Assistant Secretary of the Air Force (Financial Management and Comptroller)
Chief Information Officer, Air Force
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General Accounting Office
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Director, Defense Information and Financial Management Systems, Accounting and
 Information Management Division, General Accounting Office

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
Senate Special Committee on the Year 2000 Technology Problem
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Committee on Government Reform
House Subcommittee on Government Management, Information, and Technology,
Committee on Government Reform
House Subcommittee on National Security, Veterans Affairs, and International
Relations, Committee on Government Reform
House Subcommittee on Technology, Committee on Science

Department of the Army Comments



Office, Director of Information
Systems for Command, Control,
Communications, & Computers

DEPARTMENT OF THE ARMY
OFFICE OF THE SECRETARY OF THE ARMY
107 ARMY PENTAGON
WASHINGTON DC 20310-0107

3 Aug 99

SAIS-IIAC

MEMORANDUM FOR INSPECTOR GENERAL, DEPARTMENT OF DEFENSE.
400 ARMY NAVY DRIVE, ARLINGTON, VA 22202

SUBJECT: Audit Report on the Defense Information Systems Agency Megacenter
Support of the Year 2000 Functional End-to-End Testing Requirements (Project No.
9AS-0097)

Subject draft audit report contained no recommendations, however the following
comment is provided to correct an inaccuracy contained in the draft report.

COMMENT: Table 1, Status of Service Level Agreements, states that the Army
Personnel agreement is "Uncertain". Suggest that this be changed to "Not Applicable".
The Army has no megacenter requirements to support the personnel end-to-end test.

My point of contact for this action is Mr. William Dates, 275-9483.

Miriam F. Browning
Director for Information
Management

CF: SAAG-PMO-S

Audit Team Members

The Acquisition Management Directorate, Office of the Assistant Inspector General for Auditing, DoD, produced this report. Personnel of the Office of the Inspector General, DoD, who contributed to the report, are listed below.

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